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EPSON RESEARCH AND DEVELOPMENT INC
INTELLECTUAL PROPERTY DEPT
150 RIVER OAKS PARKWAY, SUITE 225
SAN JOSE, CA 95134

EXAMINER

CHEN, CHONGSHAN

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 09/09/2003 //

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/762,127

Applicant(s)

NAGAISHI ET AL.

Examiner

Chongshan Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-66 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-66 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

1. This action is responsive to communications: Amendment A, filed on 6/16/2003. This action is made final.

Response to Arguments

2. Applicant's arguments with respect to claims 1-66 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 15-17, 22-23, 26-27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tso et al. ("Tso", 6,385,602).

As per claim 1, Tso teaches an information categorizing method comprising a step of acquiring, through a clustering module, a plurality of search results searched by a search service, a step of performing, through the clustering module, a clustering process on the search results that categorizes the search results, and output the clustering result from the clustering module (Tso, col. 2, line 53 – col. 3, line 13, col. 4, lines 44-48, "The method comprises the steps of dynamically establishing one or more search results and displaying on the user interface one or more interface objects corresponding to the one or more search result categories", col. 3, lines

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52-60, "*Dynamic categorization* involves examining search results and dynamically establishing one or more search result categories based upon attributes of the search results ... a varied of grouping or *clustering* techniques may be used to dynamically establish the search result categories").

Tso does not explicitly disclose wherein neither the clustering process performing step nor the clustering result is based on any predefined categories. However, Tso disclose the clustering method is **dynamic** and the method dynamically establishes one or more search result categories based upon the similarities and/or dissimilarities of the attributes of the search results (Tso, col. 2, lines 63-67, col. 4, lines 16-19, dynamic means pertaining to an event or process that occurs during computer program execution, it's contrast to static according to "The authoritative dictionary of IEEE standards terms", Seventh edition, ISBN 0-7381-2601-2). It is clearly that the Tso's clustering method clusters search results during the computer program execution and there is no predefined categories involved. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Tso's clustering method to cluster search results without using any predefined categories because Tso's method is dynamic and no predefined categories is involved.

As per claim 15, Tso teaches all the claimed subject matters as discussed in claim 1, and further teaches generating a clustering result summary table indicating the summary of the clustering results based on the clustering result, and a step of outputting the clustering result summary table together with the clustering result (Tso, Fig. 3A - 3C).

As per claim 16, Tso teaches all the claimed subject matters as discussed in claim 15, and further teaches the clustering result summary table includes a cluster name of each cluster which is obtained through the clustering process (Tso, Fig. 3A – 3C).

As per claim 17, Tso teaches all the claimed subject matters as discussed in claim 16, and further teaches the clustering result is mutually linked with the clustering result summary table, wherein when a cluster name portion of the clustering result summary table is designated, the corresponding cluster portion of the clustering result is displayed, and wherein when one cluster portion of a clustering result is designated, the clustering result summary table is displayed (Tso, Fig. 3A – 3C).

As per claim 22, Tso teaches all the claimed subject matters as discussed in claim 16, and further teaches a plurality of documents to be clustered are the ones which have been searched using a keyword input by a user, the manner of displaying the cluster names containing the keyword input by the user is different in the clustering result summary table from the other cluster names (Tso, Fig. 3A-3C, col. 9, lines 49 - 67).

Claim 23 is rejected on grounds corresponding to the reasons given above for claim 1.

Claim 26 is rejected on grounds corresponding to the reasons given above for claim 15.

Claim 27 is rejected on grounds corresponding to the reasons given above for claim 1.

Claim 30 is rejected on grounds corresponding to the reasons given above for claim 15.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tso et al. ("Tso, 6,385,602) in view of Fries et al. ("Fries", 6,513,031).

As per claim 2, Tso teaches all the claimed subject matters as discussed in claim 1, except for explicitly disclosing a step of converting, through a converter module, the search result

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searched by the search service into a format that is processed by the clustering module. Fries discloses a step of converting, through a converter module, the search result searched by the search service into a format that is processed by the clustering module (Fries, col. 21, lines 27-29). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Fries with Tso in order to convert the search result into a format known by the clustering module for clustering.

6. Claims 3-6, 24 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tso et al. ("Tso, 6,385,602) in view of Fries et al. ("Fries", 6,513,031) and further in view of Oren Zamir et al. ("Zamir", "Grouper: a dynamic clustering interface to Web search results", Computer Networks, Vol. 31, No. 11-16, pp. 1361-1374, 17, May, 1999).

As per claim 3, Tso and Fries teach all the claimed subject matters as discussed in claim 2, except for explicitly disclosing the converter module is arranged correspondingly to each of a plurality of search services when the clustering process is performed correspondingly to the plurality of search services (Zamir, page 1366, Fig. 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Zamir with Tso and Fries in order to provide plurality of search service to user and allow the user to choose his/her interested search service.

As per claim 4, Tso, Fries and Zamir teach all the claimed subject matters as discussed in claim 3, and further teach a search process is performed using one search service selected from the plurality of search services and the clustering process is performed on the search result searched by the selected search service (Zamir, page 1366, Fig. 3).

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As per claim 5, Tso, Fries and Zamir teach all the claimed subject matters as discussed in claim 3, and further teach search processes are performed in parallel using at least two search services of the plurality of search services, respective search results are collected, and the clustering process is performed on the collected search results (Zamir, page 1366-1377).

As per claim 6, Tso, Fries and Zamir teach all the claimed subject matters as discussed in claim 3, and further teach search processes are performed in parallel using at least two search services of the plurality of search services, and the clustering process is individually performed on the search results (Zamir, page 1366-1377).

Claims 24 and 28 are rejected on grounds corresponding to the reasons given above for claim 2.

7. Claims 7, 13, 31-32, 41, 43-45, 47-48, 50-52, 61 and 63-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tso et al. ("Tso", 6,385,602) in view of Mukherjea et al. ("Mukherjea", 6,415,282).

As per claim 7, Tso teaches all the claimed subject matters as discussed in claim 1, except for explicitly disclosing information to be clustered is at least one of the title of a document, a URL address, an update date, and a file size of an individual search result. Mukherjea teaches information to be clustered is at least one of the title of a document, a URL address, an update date, and a file size of an individual search result (Mukherjea, col. 3, lines 40-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Mukherjea with Tso in order to cluster search result.

As per claim 13, Tso and Mukherjea teach all the claimed subject matters as discussed in claim 7, and further teach the clustering process is performed based on a feature, and wherein the

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title of each document is detected and a word characteristic of and contained in the title is extracted as the feature (Tso, col. 51-55).

As per claim 31, Tso teaches a method for categorizing digital information, comprising the steps of:

acquiring at least one group of a plurality of digital items from at least one search of a database or network (Tso, col. 2, line 53 - col. 3, line 13);

clustering the plurality of digital items in at least one group according to each of the selected cluster-indexing information (Tso, col. 2, line 53 - col. 3, line 13); and

outputting each cluster of digital items as a cluster result (Tso, col. 2, line 53 - col. 3, line 13);

wherein neither the clustering nor the cluster result is based on any predefined categories (Tso, col. 2, line 53 - col. 3, line 13).

Tso does not explicitly disclose extracting from each item in at least one group of a plurality of digital items selected cluster-indexing information comprising at least one of title, URL address, update date, and file size. Mukherjea teaches extracting from each item in at least one group of a plurality of digital items selected cluster-indexing information comprising at least one of title, URL address, update date, and file size (Mukherjea, col. 3, lines 40-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Mukherjea with Tso in order to cluster search result.

As per claim 32, Tso and Mukherjea teach all the claimed subject matters as discussed in claim 31, except for explicitly disclosing converting each of the acquired digital items into a common format before performing the clustering. However, it would have been obvious to one

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of ordinary skill in the art at the time the invention was made to convert each of the acquired digital items into a common format before performing the clustering so that the clustering module can cluster the acquired digital items. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to convert each of the acquired digital items into a common format before performing the clustering so that the clustering module can cluster the acquired digital items.

As per claim 41, Tso teaches all the claimed subject matters as discussed in claim 31, and further teaches the title of each digital item in at least one group of a plurality of digital items is extracted, each title being defined by selected characters in the corresponding digital item, the selected characters being identified by one of location, size and a fixed number of words in from a designated beginning of the digital item, and wherein the identified selected characters are extracted and clustering is performed based on the selected characters extracted (Mukherjea, col. 3, line 34 – col. 5, lines 65).

As per claim 43, Tso and Mukherjea teach all the claimed subject matters as discussed in claim 31, and further teach generating a clustering result summary table indicating the summary of the clustering results based on the clustering result, and a step of outputting the clustering result summary table together with the clustering result (Tso, Fig. 3A - 3C).

As per claim 44, Tso and Mukherjea teach all the claimed subject matters as discussed in claim 15, and further teach the clustering result summary table includes a cluster name of each cluster which is obtained through the clustering process (Tso, Fig. 3A - 3C).

As per claim 45, Tso and Mukherjea teach all the claimed subject matters as discussed in claim 16, and further teach the clustering result is mutually linked with the clustering result

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summary table, wherein when a cluster name portion of the clustering result summary table is designated, the corresponding cluster portion of the clustering result is displayed, and wherein when one cluster portion of a clustering result is designated, the clustering result summary table is displayed (Tso, Fig. 3A - 3C).

Claims 47-48 are rejected on grounds corresponding to the reasons given above for claims 31-32.

Claim 50 is rejected on grounds corresponding to the reasons given above for claim 43.

Claims 51-52 are rejected on grounds corresponding to the reasons given above for claims 31-32.

Claim 61 is rejected on grounds corresponding to the reasons given above for claim 41.

Claims 63-65 are rejected on grounds corresponding to the reasons given above for claims 43-45.

8. Claims 8-12, 14, 20-21, 25 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tso et al. ("Tso", 6,385,602) in view of Jacobson et al. ("Jacobson", 6,167,397).

As per claim 8, Tso teaches all the claimed subject matters as discussed in claim 1, except for explicitly disclosing the order of the clustering result is rearranged using a score indicating the degree of match between the clustering result and a search request for each document and the clustering result with the order thereof rearranged is then output. Jacobson teaches disclosing the order of the clustering result is rearranged using a score indicating the degree of match between the clustering result and a search request for each document and the clustering result with the order thereof rearranged is then output (Jacobson, col. 1, lines 58-63). Therefore, it would have

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been obvious to one of ordinary skill in the art at the time the invention was made to combine Jacobson with Tso in order to provide a ranked list of document clusters.

As per claim 9, Tso and Jacobson teach all the claimed subject matters as discussed in claim 8, except for explicitly disclosing calculating the average of scores of the documents contained in each cluster to treat the average of each cluster as a cluster score. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to calculate the average of scores of the documents contained in each cluster to treat the average of each cluster as a cluster score in order to use the cluster score to rank the clusters. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to calculate the average of scores of the documents contained in each cluster to treat the average of each cluster as a cluster score in order to use the cluster score to rank the clusters.

As per claim 10, Tso and Jacobson teach all the claimed subject matters as discussed in claim 8, except for explicitly disclosing determining the maximum value of the scores of the documents in each cluster to treat the maximum score of each cluster as the cluster score. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the maximum value of the scores of the documents in each cluster to treat the maximum score of each cluster as the cluster score in order to use the cluster score to rank the clusters. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the maximum value of the scores of the documents in each cluster to treat the maximum score of each cluster as the cluster score in order to use the cluster score to rank the clusters.

As per claim 11, Tso and Jacobson teach all the claimed subject matters as discussed in claim 8, except for explicitly disclosing determining a score at a midway point or a substantially midway point in each cluster when the documents contained in each cluster are arranged in the order of magnitude of scores assigned thereto, to treat the score at the midway point or the substantially midway point as the cluster score. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine a score at a midway point or a substantially midway point in each cluster when the documents contained in each cluster are arranged in the order of magnitude of scores assigned thereto, to treat the score at the midway point or the substantially midway point as the cluster score in order to use the cluster score to rank cluster. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine a score at a midway point or a substantially midway point in each cluster when the documents contained in each cluster are arranged in the order of magnitude of scores assigned thereto, to treat the score at the midway point or the substantially midway point as the cluster score in order to use the cluster score to rank cluster.

As per claim 12, Tso and Jacobson teach all the claimed subject matters as discussed in claim 9, and further teach the cluster score determining step for rearranging the cluster order is individually performed correspondingly to the plurality of search services when the clustering process is performed correspondingly to the search results provided by the plurality of search services (Jacobson, col. 1, line 58 – col. 2, line 22).

As per claim 14, Tso and Jacobson teach all the claimed subject matters as discussed in claim 8, and further teach displaying the clusters in the order of the magnitude of scores from a high score to a low score and wherein when there are clusters having the same cluster score, one

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of the clusters having a larger number of documents there within is positioned higher in the cluster order (Jacobson, col. 1, line 58 – col. 2, line 22).

As per claim 20, Tso teaches all the claimed subject matters as discussed in claim 16, and further teaches displaying the clustering result summary table (Tso, Fig. 3C). Tso does not explicitly disclose the arrangement order of clusters forming the clustering result summary table agrees with the arrangement order of the clusters in the clustering result. Jacobson teaches ranking the clusters (Jacobson, col. 1, line 58 – col. 2, line 22). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Jacobson with Tso to match the arrangement order of clusters forming the clustering result summary table with the arrangement order of the clusters in the clustering result so that the summary table entries are matched with their corresponding clusters.

As per claim 21, Tso teaches all the claimed subject matters as discussed in claim 16, and further teaches displaying the clustering result summary table (Tso, Fig. 3C). Tso does not explicitly disclose the manner of displaying the cluster names is changed in the clustering result summary table depending on the importance of each cluster in response to the clustering result. Jacobson teaches ranking the clusters (Jacobson, col. 1, line 58 – col. 2, line 22). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Jacobson with Tso to display the clustering result summary table depending on the importance of each cluster in response to the clustering result in order to display the most important clustering result summary entry first to attract the user's attention.

Claims 25, 29 are rejected on grounds corresponding to the reasons given above for claim

9. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tso et al. ("Tso", 6,385,602) in view of Oren Zamir et al. ("Zamir", "Grouper: a dynamic clustering interface to Web search results", Computer Networks, Vol. 31, No. 11-16, pp. 1361-1374, 17, May, 1999).

As per claim 18, Tso teaches all the claimed subject matters as discussed in claim 17, except for explicitly disclosing the head portion of an outline surrounding the cluster or the last line in the outline of the cluster present immediately prior to the first cluster is displayed on the top of a screen. Zamir discloses the head portion of an outline surrounding the cluster or the last line in the outline of the cluster present immediately prior to the first cluster is displayed on the top of a screen (Zamir, page 1365). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Zamir with Tso in order to provide clustering summary information.

As per claim 19, Tso teaches all the claimed subject matters as discussed in claim 18, except for explicitly disclosing the clustering result summary table is displayed with the head portion thereof appearing first on the screen. Zamir discloses the clustering result summary table is displayed with the head portion thereof appearing first on the screen (Zamir, page 1365). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Zamir with Tso in order to provide clustering summary information.

10. Claims 33-35 and 53-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tso et al. ("Tso", 6,385,602) in view of Mukherjea et al. ("Mukherjea", 6,415,282) and further in view of Oren Zamir et al. ("Zamir", "Grouper: a dynamic clustering interface to Web search results", Computer Networks, Vol. 31, No. 11-16, pp. 1361-1374, 17, May, 1999).

11.

As per claim 33, Tso and Mukherjea teach all the claimed subject matters as discussed in claim 31, except for explicitly disclosing the at least one group of a plurality of digital items is acquired by selecting only one such group from a plurality of groups, each group being the result of an independent search, and wherein the clustering is performed on the selected one group. Zamir teaches the at least one group of a plurality of digital items is acquired by selecting only one such group from a plurality of groups, each group being the result of an independent search, and wherein the clustering is performed on the selected one group (Zamir, Fig. 3, page 1366-1367). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Zamir with Tso in order to allow the user to select a search group.

As per claim 34, Tso, Mukherjea and Zamir teach all the claimed subject matters as discussed in claim 31, and further teach wherein the at least one group of a plurality of digital items acquired comprises a plurality of such groups, each group being the result of an independent search performed in parallel with one another, and wherein the clustering is performed on the collective search results (Zamir, Fig. 3, page 1366-1367).

As per claim 35, Tso, Mukherjea and Zamir teach all the claimed subject matters as discussed in claim 31, and further teach wherein the at least one group of a plurality of digital items acquired comprises a plurality of such groups, each group being the result of an independent search performed in parallel with one another, and wherein the clustering is individually performed on the search result (Zamir, Fig. 3, page 1366-1367).

Claims 53-55 are rejected on grounds corresponding to the reasons given above for claims 33-35.

12. Claims 36-40, 42, 46, 49, 56-60, 62 and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tso et al. ("Tso", 6,385,602) in view of Mukherjea et al. ("Mukherjea", 6,415,282) and further in view of Jacobson et al. ("Jacobson", 6,167,397).

As per claim 36, Tso and Mukherjea teach all the claimed subject matters as discussed in claim 31, except for explicitly disclosing the order of the clustering result is rearranged using a score indicating the degree of match between the clustering result and a search request for each document and the clustering result with the order thereof rearranged is then output. Jacobson teaches disclosing the order of the clustering result is rearranged using a score indicating the degree of match between the clustering result and a search request for each document and the clustering result with the order thereof rearranged is then output (Jacobson, col. 1, lines 58-63). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Jacobson with Tso in order to provide a ranked list of document clusters.

As per claim 37, Tso, Mukherjea and Jacobson teach all the claimed subject matters as discussed in claim 36, except for explicitly disclosing calculating the average of scores of the documents contained in each cluster to treat the average of each cluster as a cluster score. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to calculate the average of scores of the documents contained in each cluster to treat the average of each cluster as a cluster score in order to use the cluster score to rank the clusters. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

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was made to calculate the average of scores of the documents contained in each cluster to treat the average of each cluster as a cluster score in order to use the cluster score to rank the clusters.

As per claim 38, Tso, Mukherjea and Jacobson teach all the claimed subject matters as discussed in claim 36, except for explicitly disclosing determining the maximum value of the scores of the documents in each cluster to treat the maximum score of each cluster as the cluster score. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the maximum value of the scores of the documents in each cluster to treat the maximum score of each cluster as the cluster score in order to use the cluster score to rank the clusters. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the maximum value of the scores of the documents in each cluster to treat the maximum score of each cluster as the cluster score in order to use the cluster score to rank the clusters.

As per claim 39, Tso, Mukherjea and Jacobson teach all the claimed subject matters as discussed in claim 36, except for explicitly disclosing determining a score at a midway point or a substantially midway point in each cluster when the documents contained in each cluster are arranged in the order of magnitude of scores assigned thereto, to treat the score at the midway point or the substantially midway point as the cluster score. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine a score at a midway point or a substantially midway point in each cluster when the documents contained in each cluster are arranged in the order of magnitude of scores assigned thereto, to treat the score at the midway point or the substantially midway point as the cluster score in order to use the cluster score to rank cluster. Therefore, it would have been obvious to one of ordinary skill

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in the art at the time the invention was made to determine a score at a midway point or a substantially midway point in each cluster when the documents contained in each cluster are arranged in the order of magnitude of scores assigned thereto, to treat the score at the midway point or the substantially midway point as the cluster score in order to use the cluster score to rank cluster.

As per claim 40, Tso, Mukherjea and Jacobson teach all the claimed subject matters as discussed in claim 36, and further teach the cluster score determining step for rearranging the cluster order is individually performed correspondingly to the plurality of search services when the clustering process is performed correspondingly to the search results provided by the plurality of search services (Jacobson, col. 1, line 58 - col. 2, line 22).

As per claim 42, Tso, Mukherjea and Jacobson teach all the claimed subject matters as discussed in claim 36, and further teach displaying the clusters in the order of the magnitude of scores from a high score to a low score and wherein when there are clusters having the same cluster score, one of the clusters having a larger number of documents there within is positioned higher in the cluster order (Jacobson, col. 1, line 58 - col. 2, line 22).

As per claim 46, Tso, Mukherjea teaches all the claimed subject matters as discussed in claim 43, and further teaches displaying the clustering result summary table (Tso, Fig. 3C). Tso does not explicitly disclose the manner of displaying the cluster names is changed in the clustering result summary table depending on the importance of each cluster in response to the clustering result. Jacobson teaches ranking the clusters (Jacobson, col. 1, line 58 - col. 2, line 22). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Jacobson with Tso to display the clustering result summary table

depending on the importance of each cluster in response to the clustering result in order to display the most important clustering result summary entry first to attract the user's attention.

Claim 49 is rejected on grounds corresponding to the reasons given above for claim 36.

Claims 56-60 are rejected on grounds corresponding to the reasons given above for claims 36-40.

Claim 62 is rejected on grounds corresponding to the reasons given above for claim 42.

Claim 66 is rejected on grounds corresponding to the reasons given above for claim 46.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Li et al. (6,094,653) disclose document classification method and apparatus therefor.

Ruocco et al. (5,864,855) disclose parallel document clustering process.

Tukey et al. (5,999,927) disclose method and apparatus for information access employing overlapping clusters.

Hilsenrath et al. (5,926,812) disclose document extraction and comparison method with applications to automatic personalized database searching.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

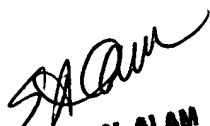
Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chongshan Chen whose telephone number is (703) 305-8319. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on (703)305-4393. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

CC


SHAHID AL ALAM
PATENT EXAMINER
